

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. – 33. (CANCELLED)

34. (CURRENTLY AMENDED) A composition that is solidifiable to form a porous matrix, the matrix comprising a first phase and a second phase contained within the first phase, the composition comprising:

a material for the first phase in a fluid state capable of solidification, wherein this material is selected from a liquid, plastic solid or a solid in powder, grain or granule form, which can partially or fully liquefy, dissolve or melt or can become a tacky semi-solid or a plastic solid, such that it is able to flow; and

a material for the second phase distributed through the material for the first phase, wherein the composition is suitable for introduction into a tissue prior to solidification of the material of the first phase to form the porous matrix, wherein the porous matrix has a porosity that is achieved by gaps between particles, or by incomplete liquefaction of the first phase, in addition to the inherent porosity of the particles themselves, and wherein the material for the first phase comprises one or more polymer and the material for the second phase comprises one or more polymer.

35. (PREVIOUSLY PRESENTED) A composition according to claim 34, wherein the material for the second phase is solid.

36. (PREVIOUSLY PRESENTED) A composition according to claim 35, wherein the material for the second phase comprises a solid particle material contained within and distributed through the material for the first phase.

37. (CURRENTLY AMENDED) A composition according to claim 36, wherein the solid particle particulate material is porous.

38. (CURRENTLY AMENDED) A composition according to claim 34 wherein the material for the first phase or the material for the second phase or both the material for the first phase and the material for the second phase comprises one or more polymers, wherein the polymer is selected from poly (α -hydroxyacids), polylactic acids, polyglycolic acids, poly-lactide poly-glycolide copolymers, poly-lactide polyethylene glycol (PEG) copolymers, polyesters, poly (ϵ -caprolactone), poly (3-hydroxy-butyrate), poly (s-caproic acid), poly (p-dioxanone), poly (propylene fumarate), poly (ortho esters), polyol/diketene acetals addition polymers, polyanhydrides, poly (sebacic anhydride) (PSA), poly (carboxybiscarboxyphenoxyphenoxyhexane) (PCPP), poly [bis(p- N -carboxyphenoxy) methane] (PCPM), copolymers of SA, CPP and CPM poly (amino acids), poly (pseudo amino acids), polyphosphazenes, derivatives of poly [(dichloro) phosphazene], poly [(organoo) phosphazenes] polymers, polyphosphates, polyethylene glycol polypropylene block copolymers, natural polymers, silk, elastin, chitin, chitosan, fibrin, fibrinogen, polysaccharides, pectins (including pectine), alginates, collagen, poly (amino acids), peptides, polypeptides, proteins, or mixtures thereof.

39. (PREVIOUSLY PRESENTED) A composition according to claim 38, wherein the polymer is biodegradable.

40. (PREVIOUSLY PRESENTED) A composition according to claim 38, wherein the polymer is crosslinked.

41. (PREVIOUSLY PRESENTED) A composition according to claim 38, wherein the material for the first phase or the material for the second phase or both the material for the first phase and the material for the second phase comprises the polymer and a plasticizer.

42. (PREVIOUSLY PRESENTED) A composition according to claim 34, which additionally contains cells.

43. (PREVIOUSLY PRESENTED) A composition according to claim 42, wherein the cells are provided in the second phase.

44. (PREVIOUSLY PRESENTED) A composition according to claim 42, in which the cells are animal cells.

45. (PREVIOUSLY PRESENTED) A composition according to claim 44, in which the cells are mammalian cells.

46. (CURRENTLY AMENDED) A composition according to claim 45 [[11]], in which the cells are human cells.

47. (CURRENTLY AMENDED) A composition according to claim 44, in which the cells are bone cells, osteoprogenitor cells, cardiovascular cells, endothelial cells, lung cells, cardiomyocyte cells, pulmonary cells, intestinal cells, cartilage cells, muscle cells, liver cells, kidney cells, skin cells, ~~specialised cells such as~~ placental cells, amniotic cells, chorionic cells [[or]] foetal cells, stem cells, chondrocyte cells, or adipocytes reprogrammed to become cartilage cells.

48. (PREVIOUSLY PRESENTED) A composition according to claim 34, in which the matrix further comprises one or more factors useful for the promotion of tissue growth and development.

49. (PREVIOUSLY PRESENTED) A composition according to claim 48, wherein the factors comprise one or more factors selected from: epidermal growth factor, platelet derived growth factor, basic fibroblast growth factor, vascular endothelial growth factor, insulin-like growth factor, nerve growth factor, hepatocyte growth factor, transforming growth factors, bone morphogenic proteins, cytokines, interferons, interleukins, monocyte chemotactic protein-1(MCP-1), oestrogen, testosterone, kinases, chemokinas, glucose, sugars, amino acids, calcification factors, dopamine, amine-rich oligopeptides, fibronectin, laminin, tamoxifen, cis-platin, and peptides.

50. (PREVIOUSLY PRESENTED) A composition according to claim 34, which further comprises drugs, hormones, enzymes, antibiotics, nutrients or mixtures thereof in both the first phase and the second phase.

51. (PREVIOUSLY PRESENTED) A composition according to claim 34, in which each of the material of the first phase and the material of the second phase comprises different drugs, hormones, enzymes, antibiotics, nutrients or mixtures thereof.